

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. **Place additional certification comments, entries, and narrative items on continuation sheets (NPS Form 10-900a).**

1. Name of Property

Historic name Glasgow Satellite Airfield Norden Bombsight Storage Vault

Other names/site number 24VL1780

2. Location

street & number One-Half Mile North of Glasgow

☐ not for publication

city or town Glasgow

☒ vicinity

State Montana

code MT

county Valley

code 105

zip code 59230

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this X nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property X meets does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

 national X statewide X local

Signature of certifying official

Date

Title

State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria.

Signature of commenting official

Date

Title

State or Federal agency and bureau

4. National Park Service Certification

I, hereby, certify that this property is:

Signature of the Keeper

Date of Action

 entered in the National Register

 determined eligible for the National Register

 determined not eligible for the National Register

 removed from the National Register

 other (explain:)

5. Classification

Ownership of Property

(Check as many boxes as apply)

<input type="checkbox"/>	private
<input checked="" type="checkbox"/>	public - Local
<input type="checkbox"/>	public - State
<input type="checkbox"/>	public - Federal
<input type="checkbox"/>	private

Category of Property

(Check only **one** box)

<input type="checkbox"/>	building(s)
<input type="checkbox"/>	district
<input type="checkbox"/>	site
<input checked="" type="checkbox"/>	structure
<input type="checkbox"/>	building(s)
<input type="checkbox"/>	object

Number of Resources within Property

(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
		buildings
		sites
1		structures
		Objects
		buildings
1	0	Total

Name of related multiple property listing

(Enter "N/A" if property is not part of a multiple property listing)

N/A

Number of contributing resources previously listed in the National Register

N/A

6. Function or Use

Historic Functions

(Enter categories from instructions)

DEFENSE/air facility = Bombsight vault

Current Functions

(Enter categories from instructions)

VACANT/NOT IN USE

7. Description

Architectural Classification

(Enter categories from instructions)

NO STYLE

Materials

(Enter categories from instructions)

foundation: CONCRETE

walls: CONCRETE

roof: CONCRETE

other: METAL: Steel

Narrative Description

(Describe the historic and current physical appearance of the property. Explain contributing and noncontributing resources if necessary. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, setting, size, and significant features.)

Summary Paragraph

The Norden Bombsight Vault is located on the northeast side of the Glasgow Airport, just north of Glasgow, Montana and the Milk River. The US Army Air Force constructed the storage vault in 1942 to house the top secret Norden Bombsight. The Glasgow Army Airfield was one of three satellite airfields to East Base (now Malmstrom Air Force Base) in Great Falls, Montana that trained B-17 "Flying Fortress" squadrons during World War II. Constructed of reinforced concrete, the structure has changed little since 1942. The concrete is in good condition despite not having been actively maintained since the mid-1940s. The vault is structurally identical to a bombsight storage vault at the Lewistown Satellite Airfield Historic District (24FR0851). The building retains good integrity.

Narrative Description

The Norden Bombsight Vault is located on the grounds of the Wokal Field/ Glasgow International Airport (formerly the Glasgow Army Airfield) on the northern Great Plains of northeastern Montana in an area popularly known in Montana as the "High Line." The airport is located just north of Glasgow, Montana, the county seat of Valley County. The bombsight storage vault is located in the Fort Union Formation on land once scoured by glaciers during the Laurentide and Wisconsin ice ages from 190,000 to 8,000 years ago. The Fort Union Formation consists of silt and other materials deposited on a vast subtropical coastal plain bordering an inland seaway about sixty million years ago. Glasgow is located along the Milk River about twelve miles northeast of where it once emptied into the Missouri River (now covered by Fort Peck Reservoir). The airport is located on a bench just north of Glasgow. The area surrounding the site is utilized for agricultural purposes and cattle grazing.¹

The Norden Bombsight Vault consists of a one-story, L-shaped, No -Style shed roof building constructed of reinforced concrete. The vault is located on the northeast side of the Glasgow Airport and faces to the west. The poured concrete structure rests on a plinthead foundation. The building measures 16.5' x 13'. The rear projection of the building measures 11' x 6'. A wood cornice encloses the top of the building. The walls of the concrete structure measure ten inches thick and taper down to six inches where the walls interface with the doorways. A metal conduit displaying three lights projects from the top of the roof near the west elevation. The west elevation contains two pedestrian openings measuring 4 feet wide by 8 feet tall and separated by 2 feet. The openings originally contained steel vault doors fronted by wood doors. The wood doors were attached to wood posts and a lintel on both entries; the wood posts and lintels remain. The south doorway is reached by a 6' x 4' concrete pad raised approximately ten inches above the ground. The concrete pad adjacent to the north doorway has been partially removed. Raised concrete lintels project above each opening on the façade. The lintels are five feet in width and one foot in height; they are raised approximately three inches. The lintels are pierced to accommodate extended horizontal light posts centered above both door openings; only the steel collars for the lampposts remain. Air vent openings covered by metal grates are located above each lintel. The ventilation openings provided a space between the shed roof and the flat concrete vault roof and the foundation and floor. The air circulation kept the interior of the building dry and kept humidity from negatively affecting the delicate bombsight mechanisms.

No openings occur on the north and south elevations of the structure. A horizontal lamp projects from near the top center of the north elevation. The east elevation contains two air vents covered by metal grates near the top of the wall; raised concrete sills project from below both vents. The east elevation also contains two air vents covered by steel grates and framed in steel angle sections near the foundation.

¹ David Alt and Donald W. Hyndman, *Roadside Geology of Montana*, (Missoula: Mountain Press Publishing Co. 1986), 390.

Interior

The interior of the structure is divided into two sections. The north section measures 11' x 13' and the south section is 5.5' x 7'. Presumably the bombsights were kept in the north section, while the south section housed the repair and maintenance equipment and spare parts for the bombsights. While the interior is mostly bare, there are two features associated with its function as a bombsight storage vault remaining: a fiber board ceiling and the metal electrical junction box. Steel angle sections are situated at the junction of the concrete walls and poured concrete floor. The original steel vault doors, removed sometime after 1944, are currently used at the Valley County Courthouse in Glasgow.²

Integrity

The Norden Bombsight Vault retains good integrity. Although not actively maintained since the mid-1940s, the concrete is in good condition with the only significant deterioration on the walls near the floor. Damage to the concrete door posts occurred when the steel doors were removed and subsequent weathering continues in those areas. Other damage to the structure includes the removal of a chunk of the rear wall sometime after 1944; that fragment currently rests on the concrete pad in front of the south doorway. The exterior light fixtures have been removed as have the wood doors that originally enclosed the steel doors. The structure retains its original footprint and fenestration and sits in a remote section of the airport. Consequently the setting of the storage vault remains largely intact and its association with the World War II components of the airport endures. The vault was originally surrounded by a woven wire fence topped with barbed wire. A 10' wide gate and sentry box controlled access to the bombsite vault; the fence and sentry box were likely removed at the conclusion of training exercises in 1944.

² Patrick J. Rennie, Cultural Resources Inventory of the Glasgow International Airport Property: Valley County, Montana, Report Prepared for the Valley County Airport Commission and Robert Peccia and Associates, Helena, Montana, September 2005, p. 49.

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- ☒ A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- ☐ B Property is associated with the lives of persons significant in our past.
- ☐ C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- ☐ D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply)

Property is:

- ☐ A owned by a religious institution or used for religious purposes.
- ☐ B removed from its original location.
- ☐ C a birthplace or grave.
- ☐ D a cemetery.
- ☐ E a reconstructed building, object, or structure.
- ☐ F a commemorative property.
- ☐ G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance

(Enter categories from instructions)

Engineering

Transportation

Military

Period of Significance

1942-1944

Significant Dates

1942

Significant Person

(Complete only if Criterion B is marked above)

Cultural Affiliation

Architect/Builder

U.S. Army Corps of Engineers

H. R. Green Company, Cedar Rapids, Iowa

Inland Construction Company, Omaha, Nebraska

Period of Significance (justification)

The Period of Significance begins in 1942 when the US Army Air Corps constructed the vault until December 1944 when it ceased using the Glasgow Army Airfield.

Criteria Considerations (explanation, if necessary)

Statement of Significance Summary Paragraph (provide a summary paragraph that includes level of significance and applicable criteria)

The Norden Bombsight Storage Vault is significant under Criterion A at a state and local level of significance because of its association with the US military war effort during World War II. The vault was designed and constructed to house the military's top secret Norden Bombsight that was used, in this instance, in B-17 Flying Fortress bombers. The bombsight was critical to the strategic American bombing campaign against Nazi Germany as it allowed precision bombing of military targets with a minimum impact to the civilian population. The vault is one of only three remaining Norden Storage Vaults in the United States and is intact with the loss of only the steel vault doors. The vault was an important component of the Glasgow Army Air Field, which played a role in the training of hundreds of B-17 bomber crews prior to their deployment to Great Britain.

Narrative Statement of Significance (provide at least **one** paragraph for each area of significance)

The Norden Bombsight Storage Vault is significant under Criterion A as a vital component to the United States' war effort against Nazi Germany, Italy, and Imperial Japan during World War II. Carl Norden developed the bombsight in the 1930s to conduct precision bombing of enemy targets to cause maximum destruction to military installations, while minimizing civilian deaths. The military development of the Norden Bombsight was second in secrecy and on the amount of money spent on its improvement only to the Manhattan Project, which developed the atomic bomb. The Bombsight was critical to the US Army Air Force's plan to conduct strategic and tactical bombing of the Axis powers. Initially, all American B-17 and B-24 bombers were equipped with the bombsight and its crews instructed on how to use what was essentially an early computer. The bombsight governed the design of the bombers that carried them and dictated the strategy in which they were used. The US bombing offensive against Nazi Germany was the longest American campaign of World War II. The bombsight was a significant part of that campaign and contributed to the defeat of Nazi Germany and Imperial Japan in 1945.³

The Norden Bombsight Storage Vault is significant on a local level because of its association with the Glasgow Army Airfield during World War II. The airfield had a substantial economic and social impact on Glasgow and northeastern Montana. The airfield brought hundreds of airmen, soldiers, and maintenance technicians to the area to train on the important B-17 "Flying Fortress" bombers from 1942 to 1944. The presence of the airfield and the activities that occurred there made the region part of the war effort. Men stationed at the airfield participated in social events in Glasgow and became an integral part of the community during their time there. They also had a significant economic impact on the community that extended the prosperity experienced during the construction of Fort Peck Dam the decade before.

The Norden Bombsight Storage Vault is significant under Criterion C as one of only three reinforced concrete bombsight storage vaults remaining in the United States.⁴ The structure's design was developed by the US Army. It is designated a second generation storage facility (the original storage facilities consisted of a wood frame building with interior concrete vaults) utilized to store the top secret Norden Bombsight from 1942 to 1944. It is a simple L-shaped reinforced concrete structure with a shed roof, ventilation ports, and two entries on the façade. The bombsight was housed in one half of the building, while the other half was used for equipment storage and, perhaps, bombsight maintenance and repair. Structurally, the building looks identical to the Lewistown and McCook Airfield vaults. The Glasgow structure retains all of the original elements of design, footprint, and features associated with this building type. The original steel vault doors were removed by Valley County in the late 1940s and are currently in use in the Valley County Courthouse in Glasgow. Light fixture mounts and collars are still present on the building as are signal lights on the roof. The Norden Bombsight Storage Vault is a good and rare representative of the type and is associated with World War II military design and construction.

³ A Norden Bombsight was utilized on the B-29 bombers "Enola Gay" and "Bockscar" that dropped atomic bombs on Hiroshima and Nagasaki in August 1945, ending World War II and ushering in the Atomic Age.

⁴ A storage vault is located at the Lewistown Satellite Airfield (24FR0851) in Lewistown, Montana and at the McCook Army Air Base in McCook, Nebraska.

Developmental history/additional historic context information (if appropriate)

The Great Plains of northeastern Montana is home to the Assiniboiné Indians. Jesuit priests encountered the Assiniboiné in the Lake Winnipeg area of Canada in 1640. Because of increasing pressure from tribes in the eastern United States and southern Canada, the Assiniboiné and other tribes, including the Sioux were pushed to the west and onto the Great Plains. The Assiniboiné, who call themselves Nakoda's People ("People Not at War"), had reached the North Dakota area by the 1700s when they first obtained the horse and became bison hunters. They were firmly established on both sides of the Canadian-US border by 1839 and ranged west to the Sweet Grass Hills and south to the Yellowstone River. The Assiniboiné met their first Euro-American traders on the upper Missouri River in the 1810s or 1820s. Unlike their neighbors to the west, the Blackfeet, the Assiniboiné attended the Fort Laramie treaty conference in 1851 and were one of the "signers" of that document. Their reservation was absorbed into the enormous reservation north of the Missouri River created by the Judith River Treaty of 1855. The Assiniboiné shared the reservation with the Blackfeet and Atsina tribes. It also established an agency and sub-agencies in the reservation.⁵

The Lewis and Clark Expedition provided the first documented Euro-American description of the Glasgow area. On May 8, 1805, the Corps of Discovery stopped at the mouth of the Milk River on its way up the Missouri River to the headwaters. During a storm, Meriwether Lewis ventured several miles up the Milk River to the vicinity of Glasgow. He described the river as "deep, gentle in it's courant [sic] and affords a large bddy [sic] of water; it's banks are formed of a fark rich loam and blue clay are abrupt [sic] and about 12 feet high." Lewis believed the river was navigable for canoes and pirogues. Lewis and William Clark had heard about the river while wintering at Fort Mandan. The Minetaree Indians called it "The River Which Scolds All Others." Because of the peculiar milky color of the water, like the "color of a cup of tea with the admixture of a tablespoonful of milk," Lewis christened it the Milk River.⁶

Washington territorial governor Isaac Stevens, who surveyed for the route of a northern transcontinental railroad, successfully negotiated a treaty with the Blackfeet, Gros Ventres, Assiniboiné, and River Crow Indians near the mouth of the Judith River in October 1855. Because the Blackfeet had not been present at the Fort Laramie conclave in 1851, they did not recognize the territorial boundaries established by the federal government. In return for annuities, the Blackfeet and the other tribes accepted an immense 21,651,000-acre reservation that encompassed the northern Great Plains "from the crest of the Continental Divide to the mouth of the Milk River and from the United States-Canada boundary southward to the upper Musselshell River." The tribes also agreed to allow the construction of wagon roads, railroads, telegraph lines, and military posts on the reservation. Unlike other reservations in Montana, the northern reserve was remote and far removed from non-Indian settlement. The vast space comprising the reservation also kept the aggressive Blackfeet from their rival neighbors, the Gros Ventres and Assiniboiné.⁷

The St. Paul, Minneapolis & Manitoba Railroad (the Great Northern Railway after 1889) provided the impetus for the reduction of the great northern Montana reservation in 1887. Seeing profits in Montana's northern Great Plains and the mining camp of Butte, James J. Hill began making plans to extend his railroad westward from Minot, North Dakota. Unfortunately for him, much of the land north of the Missouri River in Montana was included in the northern Indian reservations. In 1886, he paid Montana territorial delegate Martin Maginnis to lobby Congress to reduce the size of the reservation and grant him an easement across the public domain. After much lobbying and threats, Congress granted him the easement in early 1887. Congress also significantly reduced the size of the Fort Peck and Fort Belknap reservations to accommodate the railroad. Hill's construction crews began building westward from Minot in April 1887, reaching the mouth of the Milk River in July of that year. The railroad established a siding at the future site of Glasgow in late July 1887. Christened Siding 45, it was located at a wide spot in the Milk River Valley. Local promoters persuaded railroad executives

⁵ Merrill G. Burlingame, *The Montana Frontier*, (Helena: State Publishing, 1942), 18, 33, 57; Michael P. Malone, Richard B. Roeder, and William L. Lang, *Montana: A History of Two Centuries*, Rev. ed. (Seattle: University of Washington, 1992), 20, 28, 116-17; Montana Department of Agriculture, Labor, and Industry, *Land of Nakoda: The Story of the Assiniboiné Indians*, (Helena: State Publishing Company, 1942), 19-20, 21, 254-55.

⁶ Gary E. Moulton, ed., *The Definitive Journals of Lewis & Clark: From Fort Mandan to Three Forks*, (Lincoln: University of Nebraska Press, 2002), 124, 129.

⁷ Malone et. al., *Montana*, 116-117; Don Spritzer, *Roadside History of Montana*, (Missoula: Mountain Press, 1999), 39; Edward E. Barry, "From Buffalo to Beef: Assimilation on Fort Belknap Reservation." *Montana The Magazine of Western History*, 26:1 (Winter 1976), 40; Paul F. Sharp, "Blackfeet of the Border: One People Divided," *Montana The Magazine of Western History*, 20:1 (Winter 1970), 5; James McClellan Hamilton, *History of Montana: From Wilderness to Statehood*, (Portland: Binford & Mort, 1957), 178-181; Burlingame, *Montana Frontier*, 36.

to give an official name to the siding, renaming it Glasgow in late 1887. The new community obtained a post office that year and the community became a small agricultural trading center for homesteaders, and ranchers. By 1888, the settlement consisted of group of log cabins and tents that housed eight saloons, three restaurants, and one store.⁸

Glasgow

Although it didn't incorporate as a city until 1903, Glasgow is one of the oldest communities in northeast Montana. In 1893 it became the county seat of newly created Valley County. The city has prospered because of its proximity to the Fort Peck Reservation and its location on the Great Northern Railway. For the first twenty years of its existence, the railroad dominated the local economy with many of Glasgow's residents employed by the Great Northern. The Enlarged Homestead Act of 1909 and the opening of the Fort Peck Reservation in 1913 caused Glasgow to boom as the community became an important agricultural shipping point and trade center. The population more than doubled from 500 residents in 1900 to 1,158 in 1910.⁹

The city grew as it became important to the regional economy. The commercial district grew from a single block on Front Street in 1910 to a large sprawling district by 1910 that included saloons, hotels, banks, lumber yards, mercantiles, dry goods stores, groceries, etc. An extensive complex of railroad buildings lined the tracks across from Front Street and the city invested in a municipal steam heating and electrical plant to provide power to the commercial and residential areas of Glasgow.¹⁰

Unfortunately, the Homestead Boom collapsed in 1918 because of drought and a post-World War I economic depression. The drought and depression pervaded much of the 1920s. Despite the poor economy and abysmal agricultural conditions, Glasgow's population grew slightly from 2,059 people in 1920 to 2,216 in 1930. The 1921 Theodore Roosevelt International Highway Association tried to put a positive spin on Glasgow in its 1921 guidebook when it described the city as having "excellent schools, churches of seven denominations, beautiful homes, [a] good business town." The Glasgow Chamber of Commerce maintained an information center for motorists on the highway (now US Highway 2) and the city managed a tourist camp "under natural shade trees, on the banks of the Milk River."¹¹

The Great Depression initially did nothing to improve Glasgow's nascent economy. The drought continued and the population of the city declined as many of its residents left the area to look for better prospects. In 1933, however, the Franklin Delano Roosevelt Administration announced plans to construct an enormous earthen dam across the Missouri River about fifteen miles south of Glasgow. The Fort Peck Dam project began in earnest in 1934 and eventually brought an estimated 10,000 workers and their families to northeastern Montana. Glasgow took on an almost metropolitan air as "streams of people arrive and depart daily on business connected with the dam development." Glasgow's population jumped to 3,799 by 1939 and it became the trading center of a large number of boomtowns that surrounded the dam's construction site. In 1930, the city established a municipal airport on the northern outskirts of town and expanded it in about 1935 to accommodate the growing population and the number of engineers, workers, and politicians that made frequent flights to the construction site.¹²

⁸ Malone et al., *Montana*, 179-180; Cheney, *Names on the Face of Montana: The Story of Montana's Place Names*, (Missoula: Mountain Press Publishing Co., 1990), 118-19; Federal Writers' Project, *Montana: A State Guide Book*, 229; Spritzer, *Roadside History of Montana*, 30; *Footprints in the Valley: A History of Valley County*, vol. 2 (Glasgow: Glasgow Courier & Printing, 1991), 295, 296; Ralph W. Hidy, Muriel E. Hidy, Roy V. Scott, and Don L. Hofsommer, *The Great Northern Railway: A History*, (Minneapolis: University of Minnesota, 1988), 56, 58-61.

⁹ *Footprints in the Valley*, 305; Department of Agriculture, Labor and Industry, *Land of Nakoda*, 268; Spritzer, *Roadside History of Montana*, 30; *Montana Place Names from Alzada to Zortman: A Montana Historical Society Guide*, (Helena: Montana Historical Society, 2009), 107; Population of Incorporated Places in Montana, viewed at www.ceic.mt.gov.

¹⁰ Sanborn-Perris Fire Insurance Maps: Glasgow, Montana: 1900, 1910, 1920. Viewed at www.sanborn.umi.com.

¹¹ Malone, et. al., *Montana*, 280-81, 283; George C. Reeder, ed., *Theodore Roosevelt International Highway: Guide Through Montana*, (Glasgow: The Glasgow Courier, 1921), 26-27.

¹² *Footprints in the Valley*, 326-327; Malone, et. al., *Montana*, 292-93, 300, 302; *Montana Place Names*, 107; Federal Writers' Project, *Montana: A State Guide Book*, 229; Population of Incorporated places in Montana; Gary Glynn, *Montana's Home Front During World War II*, (Missoula: Pictorial Histories Publishing Co., 1994), 121; Rennie, Cultural Resources Inventory, pp. 38-39.

With the entrance of the United States into World War II, Glasgow emerged as a vital cog in the War effort. From a railroad and agricultural dominated economy, Glasgow was greatly impacted by the Fort Peck Dam project, and again by the arrival of the military. , Additional information concerning Glasgow and the affect of the military is provided below.

The Cold War provided additional opportunities for Glasgow. The US military believed that if the Soviet Union was to attack the United States, its bombers would fly over the North Pole and across Saskatchewan and eastern Montana to reach the industrial and population centers of the country. Consequently, the United States Air Defense Command established an airbase at St. Marie about seventeen miles north of Glasgow. Strategic Air Command expanded the base in 1960 to accommodate B-52 bombers and a jet fighter interceptor squadron. The Cold War Glasgow Air Force Base caused Glasgow's economy and population boom as support personnel and new businesses flooded into the community to take advantage of the airbase. The population jumped from 3,821 people in 1950 to 6,398 residents in 1960. Although the airbase closed in 1968, Glasgow's population has been slow to return to the post airbase levels. While Glasgow has certainly experienced the boom and bust economic cycle common to Montana communities over the past 125 years, its significance as an important trade center and, now, shipping point on the BNSF Railway Company's line, has assured the town's importance to northeastern Montana's economy. Its strategic location on the northern Great Plains has also made it an important community in the country's defense strategy.¹³

World War II

The United States entered World War II on December 8, 1941, when President Roosevelt asked Congress for a declaration of war after the Japanese sneak attack on Pearl Harbor the day before. Nazi dictator Adolph Hitler and fascist dictator Benito Mussolini declared war on the United States three days later. At the Arcadia Conference at the White House from December 22, 1941 to January 14, 1942, FDR and British Prime Minister Winston Churchill adopted a "Germany First" policy to concentrate allied forces on the defeat of Nazi Germany first and then turn to the defeat of Imperial Japan. Although FDR and the US military anticipated being drawn into the conflict, the US military was woefully unprepared for the task before it.¹⁴

The USAAF (known as the US Army Air Corps until June 1941) had few fighters that could compete with the German Luftwaffe and a small light and heavy bomber force. In January 1943 at the Casablanca Conference, the allies implemented the Combined Bomber Offensive and began planning for round-the-clock strategic bombing campaign against Germany. The Royal Air Force (RAF) would concentrate on night-time bombing raids, while the USAAF would focus on daylight bombing. The USAAF's supreme mission during the war was to "conduct a sustained and unrelenting air offensive against Germany and Italy, to destroy their will and capability to continue the war, and to make an invasion either unnecessary or unfeasible without excessive cost." To accomplish that goal, the USAAF significantly expanded the production of B-17 and B-24 heavy bombers. From 1936 to 1945, the United States manufactured 31,213 B-17 and B-24 bombers for use in the European and Pacific theaters of war.¹⁵

In January 1942, the War Department and USAAF chief Lieutenant General Henry "Hap" Arnold formed the Eighth Air Force and placed it under the command of Major General Carl Spaatz. In May 1942, the first Eighth Air Force B-17 bombers reached Great Britain and launched its first raid against railroad yards in Rouen, France in August of that year. Flying from bases in England from October 1942 to March 1943, the unit concentrated its bomb runs on German submarine pens in occupied France. In January 1943, the Eighth Air Force launched an intense daylight bombing campaign deep inside Germany, attacking targets at Wilhelmshafen, the Ruhr, Berlin, Hamburg, and other targets. Over a five month period from January to May 1945, Eighth Air Force bombers dropped thousands of tons of explosives on German military and civilian targets. For the Eighth, one of the most costly attacks occurred on August 17, 1943, when a force of 376 B-17 bombers attacked ballbearing plants and airplane factories at Schweinfurt-Regensburg. During that attack, the Germans downed sixty planes and damaged 95 bombers with a loss of 587 airmen (killed, wounded and POW). Bombers and crews who had trained at the Glasgow Army Airfield participated in the Schweinfurt raid. With the introduction of the P-51 Mustang long-fighter plane during the winter of 1943-44, bombers could be escorted to their

¹³ Rennie, Cultural Resources Inventory, 53; *Footprints in the Valley*, 330-31, 717; *Montana Place Names*, 107; Ellen Baumler, *Montana Moments: History on the Go*, (Helena: Montana Historical Society Press, 2010), 144-45; Spritzer, *Roadside History of Montana*, 30; Population of Incorporated Places in Montana.

¹⁴ Donald L. Miller, *Masters of the Air: America's Bomber Boys Who Fought the Air War Against Nazi Germany*, (New York: Simon & Schuster, 2006), 47.

¹⁵ Miller, *Ibid*, 45, 46.

targets by fighter planes, thereby significantly reducing the number of losses of bombers and their crews. The strategic bombing campaign ended with the surrender of the Nazi Germany on May 8, 1945. Historians still debate the effectiveness of the Combined Bomber Offensive and whether it fulfilled the function for which it was intended.¹⁶

B-17, "Flying Fortress"

The B-17 "Flying Fortress" was developed by the Boeing Airplane Company in 1935 and went into production in 1936. The US military developed the airplane to fulfill a need for a heavy long-range bomber. There were several variants of the B-17, culminating in the B-17G, the Flying Fortress most associated with the long-range bombing campaign against Nazi Germany.¹⁷ The United States manufactured 8,680 B-17G's from 1943 to 1945. The "G" boasted four 1,200 horsepower engines, carried a normal bomb load of 4,000 pounds, and flew fully loaded at between 150 and 250 miles per hour at 25,000 feet. It had a combat range of 650 to 800 miles depending on the size of the bomb. The bomber sported thirteen .30 and .50 caliber machine guns for defense. It carried a crew of ten, including a pilot, co-pilot, flight engineer, navigator, radioman, bombardier, and four gunners.

At first, all B-17s were equipped with the top secret Norden Bombsights, but during the summer of 1943, the USAAF initiated a policy of "bombing on the number" where only the lead planes in bomber formations were equipped with the bombsight. Following planes seeing the lead planes dropping their bombs, would follow suit. It was hoped that this policy would make precision bombing more effective. Losses of Flying Fortresses and their crews was high between May 1942 and May 1945. A total of 3,126 planes were destroyed or so heavily damaged they could not be flown again; 26,000 Eighth Air Forces crewman (a casualty rate of over 50%) lost their lives in what became the longest campaign of World War II.¹⁸

Glasgow Satellite Airfield

This section is adapted from Patrick Rennie, Cultural Resources Inventory of the Glasgow International Airport Property, Valley County, Montana (September 2005) and from the Lewistown Satellite Airfield Historic District (Boundary Increase II), Lewistown, Montana. National Register of Historic Places No. 4000979, 18 September 2005.

Glasgow had a small, but regionally important municipal airport in the 1930s. At the beginning of the war in 1941, the Glasgow Chamber of Commerce recognized "the urgency of the War and the potential of a large airbase on the hill." Chamber president Paul J. Campbell garnered the support of Montana's Congressional delegation, including influential Montana senator Burton K. Wheeler, convinced the US Army to establish a satellite airfield in northeastern Montana. One of the arguments that persuaded the military to locate the airfield at Glasgow was to protect Fort Peck Dam. Once the military decided to locate the airfield at Glasgow, additional land for the extended runways was necessary and obtained from local landowners and the State of Montana by the military.

Construction of the Glasgow Army Airfield (AAF) began on May 5, 1942 and was finalized on November 27 of that year. On December 7, 1942 the first of the B-17 bombers arrived at the Glasgow AAF. Construction of the project was directed by the Missouri River Division of the United States Army Corps of Engineers. The H. R. Green Company drafted the plans for at least the Glasgow and Lewistown AAF's. The Inland Construction Company of Omaha, Nebraska was the prime contractor for the airfield at Glasgow, and C. W. Bennett and L. B. Lewis of Great Falls and Billings were low bidders for the electrical work. All materials for the base were shipped in via railroad and, with the exception of the hangar rafters which were shipped from Portland, Oregon, there was no prefabrication of building components. Upon completion, the Glasgow AAF consisted of a runway complex, at least one rifle/pistol range, a cantonment area, a complex drainage system, a sewage treatment facility, and an extensive water distribution system.

Near the northeast portion of the airfield is the location of the cantonment area. When completed, 20 enlisted men's barracks, two non-commissioned officers barracks, nine officers barracks, a post exchange/post office, dispensary, mess

¹⁶ Miller, *Ibid*; 45, 47-48, 74-75, 114, 115-116, 148, 192-206, 250.

¹⁷ The bomber squadrons that trained at Glasgow, Lewistown, and Cut Bank likely trained on the B-17E and F variants. The "E" was the first model to focus on offensive warfare and consisted of an extensive revision of the prior models (A-D). The fuselage was ten feet longer; it had a much larger tail fin and rudder, and was the first to include a tail gunner's position. Because the engines were also more powerful, it could carry a greater bomb load than the earlier models.

¹⁸ Miller, *Masters of the Air*, 29, 40, 108, 471; "Eighth Air Force Combat Losses," viewed at www.taphilo.com/history/8thaf.

halls, recreation halls, latrines, and physical training areas served the comforts of the 800+ enlisted [men] and 100+ officers stationed at the former AAF. In addition, a massive type II overhead bay door hangar, training facilities, operations/alerts buildings, an oil shed (dope house), a storage house for the Norden Bombsight, an ordnance area, maintenance and supply buildings, a fire hall, a crash truck/rescue crew building, a complex subsurface drainage system and sewage treatment facility complete with settling ponds were once part of the cantonment area. Once completed, these structures were intended as temporary theater of operations with five year expected lifespans.

The intent of constructing the AAF at Glasgow seems to have been two-fold. First, it served as a B-17 bomber Organizational Training Unit (OTU) formation, to train pilots and crews of the B-17 bomber. Second, it established a military presence in northeastern Montana primarily for the protection of Fort Peck Dam. The Glasgow AAF is referred to as a satellite field because it was considered a satellite to the primary airfield at Great Falls (then known as East Base. In Montana, three of these satellite fields were constructed for the US Army Air Forces. One was at Lewistown (24FR0851), one at Glasgow (24VL1780), and one at Cut Bank. Overall command at the airfield was given to the 2nd Air Force out of Fort George Wright (Spokane), although prior to activation in 1943 the headquarters was relocated to Colorado Springs. The Glasgow AAF was administered by two commanders: a base commander and a flying squadron commander.

Training B-17 bomb squadrons occurred over a three month period. The air crews trained day and night in varying weather conditions and would largely fly to six bombing ranges in Montana. Extended flights included training exercises over Washington and Minnesota. Dummy bombs used in training exercises consisted of sand filled M-38s. Training combined navigation, bombing and gunnery practice, familiarizing crews with all aspects of the B-17. The intent of this training was that each crewman learned the responsibilities of the other crew members. A spokesman for the Army's Second Air Force said that "The crews at the four Montana fields will be engaged in regular training flights to check on the accuracy of navigators and to promote teamwork among the crews. Much of their time will be devoted to practice bombing." The dispersed airfield permitted simulation of conditions in combat zones. One person compared flying over central and north-east Montana with its lack of clearly identifiable landmarks to flying over blacked out England. Another Army spokesman explained that, "Many of the flights will be in precise formation, simulating battle conditions, when ships must be so spaced as to cover one another with guns." In late 1942 and 1943, the skies over central and northeastern Montana were filled with B-17s flying between the airfields, partaking in bombing practice, and testing long-range navigation skills.

In total, four bomb groups completed OTU in Montana, but only one bomb group at a time trained there. These were the 2nd, the 385th, the 390th, and the 401st. Four bomb squadrons were attached to each bomb group. In Montana, a total of sixteen bomb squadrons trained at the four AAFs, and four bomb squadrons trained at a time. The four bomb squadrons stationed (in chronological sequence) at the Glasgow AAF were the 9th bomb squadron of the 2nd bomb Group, the 549th bomb squadron of the 385th bomb group, the 568th bomb squadron of the 390th bomb group, and the 614th bomb squadron of the 401st bomb group. As a point of interest, the first bomb group to train at Glasgow was sent for duty to North Africa, but all others went to England. The attrition rate among B-17 bomb groups was notoriously high and few who joined lived to see the end of the war. As one example, only a single crew among Glasgow's 568th squadron survived the war. In lives and dollars, it is estimated that about 600 men perished and \$20 million in B-17 bombers were lost.

On June 6, 1943, 39 airplanes of the 568th Bomb Squadron of the 390th Bomb Group (Heavy) arrived at East Base in Great Falls and then split up and flew to the respective satellite fields the following day. Thirteen B-17 bombers arrived at the Glasgow Army Airfield. The official history of the Bomb Group describes the unit's sojourn at Glasgow:

For the uninitiated Glasgow was the oasis of northeast Montana, and oasis means wet spot. Glasgow was superlative in this respect. The working day was hampered by torrential rain and Missouri River mud, and the working night was hampered by internal wetness, as distributed over the bar of the Glasgow Hotel, access to which was easily established over the Burma Road, a handy, unwatched thoroughfare over the plains of Montana.

The squadron's training at Glasgow consisted of local flights, training missions, instrument check, ground school, and all other finishing touches to a crack outfit destined for early combat." The squadron left Glasgow for Great Britain in July 1943.¹⁹

¹⁹ Albert E. Milliken, ed., *The Story of the 390th Bombardment Group (H): The Unit History of the Square J Group of the Eighth Air Force, European Theater of Operations, 1943-1945*, (New York: Eilert Printing Company, 1947), 186.

The Glasgow AAF operated until December 1944 as a military base and then deactivated. However, during 1944 its function as an OTU ceased and it was reorganized as a camp for German POWs. The German POWs primary function was to work the sugar beet fields throughout Montana. Reportedly during this phase, the residents of Glasgow referred to the AAF as "The Fritz Ritz." The Glasgow POW camp was one of 16 in Montana from 1943 to 1946. All were administered from Camp Rupert in south-central Idaho. In 1948, the War Assets Administration transferred ownership of the AAF and all associated structures and property to the City of Glasgow and Valley County for use as a civilian airport.

United States Army Air Force Squadrons Based at the Glasgow Army Airfield, 1942-1944

Four Bomb Groups from four larger Bombardment Groups trained at the Glasgow Army Airfield during World War II. Only one squadron at a time was based at the airfield. In addition to the bomber crewmen, the squadrons also included maintenance, armorers, and other support personnel.

96th Bomb Squadron of the 2nd Bombardment Group (Heavy)

The oldest bomb group in the USAAF, it began operations in September 1918 in western Europe. After the war, the bomb group participated in demonstration bombing attacks on naval aircraft in 1921 and was the first Army Air Corps unit to receive B-17 bombers in March 1937. The 2nd Bombardment Group was one of the original fifteen combat air groups formed by the US Army before World War II. Three squadrons of the unit were stationed in Montana with the 96th stationed at the Glasgow Army Airfield from November 1942 until March 1943. The USAAF assigned the bombardment group to North Africa and Italy, where it flew missions against Tunisia, Sicily, and Italy before being posted to Italy after the invasion in September 1943. Part of the Fifteenth Air Force, it flew bombing missions in Germany, Poland, Czechoslovakia, Austria, Hungary, Yugoslavia, Romania, and Greece. It flew a total of 321 missions with 189 aircraft lost to enemy action. The USAAF deactivated the 2nd Bombardment Group in February 1946.²⁰

549th Bomb Squadron of the 385th Bombardment Group (Heavy)

The USAAF formed the 385th Bombardment Group in February 1943 and stationed it for training in Montana in April 1943. It left the Glasgow Army Airfield in June 1943 and sent to England where it was a part of the Eighth Air Force. In October 1943, it led an attack on the Focke-Wulf assembly plant in Marienburg, East Prussia. It conducted strategic bombing missions in Germany, France, Poland, Belgium, Holland, and Norway. It was involved in the August 17, 1943 raid on the ball bearing plant in Schweinfurt-Regensburg. It also flew tactical support missions in Normandy and at the Battle of the Bulge. During its participation in the Combined Bombing Offensive, the 549th flew 296 combat missions with 129 airplanes lost.²¹

568th Bomb Squadron of the 390th Bombardment Group (Heavy)

The USAAF activated the 390th Bombardment Group in January 1943 and assigned it to the Glasgow Army Airfield for training in June 1943. After it completed training in Montana in July 1943, the USAAF assigned it to the 13th Combat Bombardment Wing in England. It began combat operations in August 1943 and participated in the second raid on the ball bearing plant in Schweinfurt on February 20-25, 1944. In addition to its strategic bombing missions, it also conducted tactical bombing in support of the D-Day landings in Normandy in June 1944 and during the Battle of the Bulge in December 1944 and January 1945. It flew its last combat mission on April 20, 1945. During its active period, the 390th flew 300 missions and dropped 19,000 tons of bombs. In the process it lost 181 aircraft and 714 airmen. The USAAF deactivated the bombardment group in August 1945.²²

614th Bomb Squadron of the 401st Bombardment Group (Heavy)

The last squadron to train at the Glasgow Army Airfield, it arrived in Montana in July 1943 and moved overseas to England and the Eighth Air Force in October of that year. The 401st had the second best rating in bombing accuracy in the Eighth Air Force. Assigned to the 94th Combat Bombardment Wing, it began strategic bombing operations against Nazi Germany

²⁰ Miller, *Masters of the Air*, 196; Maurer, Mauer, *Air Force Combat Units of World War II*, (Maxwell Air Force Base, Alabama: Office of Air Force History, 1983), 25-28; "Eighth Air Force Combat Losses."

²¹ Maurer, *Air Force Combat Units*, 272-73; Miller, *Masters of the Air*, 300; "Eighth Air Force Combat Losses."

²² Milliken, *Story of the 390th Bombardment Group (H)*, 154-59; Maurer, *Air Force Combat Units*, 277-78; "Eighth Air Force Combat Losses."

in October 1943. It also flew tactical missions in Normandy and at the Battle of the Bulge. In all, it flew 256 combat missions with 95 aircraft lost in action. The USAAF deactivated it in August 1945.²³

Norden Bombsight Storage Vault

The Norden Bombsight was critical to the Allies' air campaign against Nazi Germany between 1942 to 1945. The bombsight, while not perfect, allowed for the precision bombing of enemy targets from altitudes up to 25,000 feet. The design of the bombsight was a closely guarded military secret and the USAAF took great pains to protect that secret from Axis spies. All of the squadrons based at satellite airfields in Montana, including Glasgow, trained with the Norden Bombsight in the clear air of eastern Montana and western North Dakota. That training enabled the Allies to successfully bomb German munitions plants, aircraft factories, railroad marshaling yards, and other strategic targets inside the Third Reich, eventually resulting in an Allied victory in May 1945.

Because of its top secret status, the secure storage of the equipment was vital to Allied war effort. The bombsight vault was constructed of reinforced concrete and was, essentially, impervious to bombs and other explosive devices. Walls of the vault measured eight inches thick with access to the bombsight storage room gained through wood doors and steel vault doors. No other entrances to the storage rooms existed. The building, moreover, was located in a relatively isolated part of the airfield complex and surrounded by a woven wire fence topped with barbed wire. The structure was guarded 24 hours per day by a sentry stationed at a gateway located in front of the building. In addition, lights on all four sides of the structure prevented any surreptitious approach to the structure. The strict security that surrounded the Norden Bombsight prevented any security breaches and theft of the bombsight by enemy spies. The Norden Bombsight storage vault at the Glasgow airfield well represents those security measures.

Developed in the early 1930s by Dutch immigrant Carl Norden, the Norden Bombsight was one of the most important secret weapons developed by the US military before the Manhattan Project. A complicated early computer, it consisted of a system of gyroscopes, gears, and optics that could, at least theoretically, "place a single bomb in a pickle barrel from 20,000 feet." The US Navy began tests on the bombsight in 1935 and the US Army contracted to purchase 90,000 bombsights at \$1.5 billion from the New York City-based Carl I. Norden, Inc. company in 1937. The gyroscope-stabilized instrument computed drift and dropping angle for bombs after data was entered into the machine, including ground speed, air resistance and the estimated time of the fall of the bombs. Although his wife reputedly called him the "Merchant of Death," Norden intended the bombsight to allow for precision, high-altitude bombing that would inflict a maximum damage on military targets with minimum damage to civilians and private property.²⁴

Despite his best intentions, Norden's bombsight was neither very accurate nor discriminating for targets on the ground. Optimum use of the bombsight required a level platform and consistent speed on the part of the airplane. When the bomber was under attack from fighter planes and anti-aircraft fire from the ground (flak), pilots tended to take evasive action, which diminished the effectiveness of the bombsight and the bombs. Even in the clear, cloudless skies of the American West during training exercises, the Norden Bombsight was not terribly accurate. In the hazy, cloudy skies of northern Europe, it would prove to be even less so. By early 1943, however, the bombsights' coupling with the B-17 and B-24 bombers' auto-pilot and a change in tactics developed by General Curtis LeMay of the Eighth Air Force, would make the Norden Bombsight more effective, but not to the level advocated by its inventor. Despite the problems with the Norden Bombsight, it remained in service with the USAAF and the US Navy until the end of the war. Variations of the bombsight were used by the military until the Vietnam War.²⁵

Because the military classified the Norden Bombsight top secret, the USAAF made provisions to secure it when not in use. The Norden Bombsight Storage Vault is a second generation storage facility placed in use after the USAAF reclassified it from secret to restricted. Original Norden Bombsight storage facilities usually consisted of a wooden storage building with five or six interior concrete storage vaults. Bombsight vaults in Lewistown and Glasgow were constructed from standardized plans and are of the same dimensions. Both are poured concrete with walls approximately eight inches thick. They have poured concrete roofs, identical footprints and surface features. One half of the vaults were used to store the bombsights on shelving, while the other half of the building may have functioned as an equipment storage and

²³ Mauer, *Air Force Combat Units*, 285-86; "Eighth Air Force Combat Losses."

²⁴ Miller, *Masters of the Air*, 3, 6, 39; Lloyd Searle, "The Bombsight War: Norden vs. Sperry," viewed at www.thevaluesell/IEEEI.com.

²⁵ Miller, *Masters of the Air*, 39, 104; Searle, "The Bombsight War."

repair. The history of the 390th Bomb Group described the storage vault: "In the relative secrecy of the bombsight vault, [technicians] worked night and day to insure the accuracy of the Group's attacks." The USAAF assigned seventy Norden Bombsights to the 390th. Bombardiers checked the bombsights prior to use and installed them in the plexiglass noses of their airplanes. After use,, the bombardiers placed the bombsights in bags and returned them to the storage facilities. Repair and maintenance technicians for the bombsights were also stationed at the training airfields. It is, however, unclear if the maintenance and repair took place in the other half the storage structure.²⁶

The Norden Bombsight Storage Vault at the Glasgow Army Airfield was utilized until 1944 when the USAAF ceased conducting bomber training there. It is likely the vault was used for storage by the Glasgow and Valley County after they acquired the airfield from the military in 1948. The vault is currently unused.²⁷

²⁶ Wilson, *Masters of the Air*, 39; National Park Service. "Aviation: From Sand Dunes to Sonic Booms: Second-Generation Norden Bombsight Vault. Viewed at www.cr.nps.gov/nr/travel/aviation/sec.com; Rennie, Cultural Resources Inventory, 48-49; Milliken, *Story of the 390th Bombardment Group (H)*, 320.

²⁷ Rennie, Cultural Resources Inventory, 53.

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets)

- Alt, David and Donald W. Hyndman. *Roadside Geology of Montana*. (Missoula: Mountain Press Publishing Co., 1986).
- Baumler, Ellen. *Montana Moments: History on the Go*. (Helena: Montana Historical Society Press, 2010).
- Berry, Edward E. "From Buffalo to Beef: Assimilation on Fort Belknap Reservation." *Montana The Magazine of Western History*. 26:1 (Winter 1976).
- Burlingame, Merrill G. *The Montana Frontier*. (Helena: State Publishing, 1942).
- Cheney, Roberta Carkeek. *Names on the Face of Montana: The Story of Montana's Place Names*. (Missoula: Mountain Press Publishing Co., 1990).
- Federal Writers' Project. *Montana: A State Guide Book*. (Helena: Department of Agriculture, Labor and Industry, 1939).
- Footprints in the Valley: A History of Valley County*. Three volumes (Glasgow: Glasgow Courier & Printing, 1991).
- Freeman, Roger A. *B-17: Flying Fortress at War*. (Charles A. Scribner's Sons, 1977).
- Glynn, Gary. *Montana's Home Front During World War II*. (Missoula: Pictorial Histories Publishing Co., 1994).
- Hamilton, James McClellan. *History of Montana: From Wilderness to Statehood*. (Portland: Binford & Mort, 1957).
- Hidy, Ralph W., Muriel E. Hidy, Roy V. Scott, and Don L. Hofsommer. *The Great Northern Railway: A History*. (Minneapolis: University of Minnesota, 1988).
- Malone, Michael P., Richard B. Roeder, and William L. Lang. *Montana: A History of Two Centuries*. Revised edition (Seattle: University of Washington, 1992).
- Maurer, Maurer. *Air Force Combat Units of World War II*. (Washington, DC: Office of Air Force History, 1983).
- Miller, David, Dennis Smith, Joseph R. McGeshick James Shanley, and Caleb Shields. *A History of the Assiniboiné and Sioux Tribes of the Fort Peck Indian Reservation, 1800-2000*. (Poplar, Montana: Fort Peck Community College, 2008).
- Miller, Donald L. *Masters of the Air: America's Bomber Boys Who Fought the Air War Against Nazi Germany*. (New York: Simon & Schuster, 2004).
- Milliken, Albert E., ed. *The Story of the 390th Bombardment Group (H): The Unit History of the Square J Group of the Eighth Air Force, European Theater of Operations, 1943-1945*. (New York: Eilert Printing Company, 1947).
- Montana Department of Agriculture, Labor and Industry. *Land of Nakoda: The Story of the Assiniboiné Indians*. (Helena: State Publishing Company, 1942).
- Montana Place Names From Alzada to Zortman: A Montana Historical Society Guide*. (Helena: Montana Historical Society Press, 2009).
- Moulton, Gary E., ed. *The Definitive Journals of Lewis & Clark: From Fort Mandan to Three Forks*. (Lincoln: University of Nebraska Press, 2002).
- National Park Service. "Aviation: From Sand Dunes to Sonic Booms: Second-Generation Norden Bombsight Vault." Viewed at www.cr.nps.gov/nr/travel/aviation/sec.com.

Rennie, Patrick J. Cultural Resources Inventory of the Glasgow International Airport Property: Valley County, Montana.
Report prepared for the Valley County Airport Commission and Robert Peccia and Associates, Helena, Montana.
Federal Airport Improvement Project No. 3-30-0033-010-2005. September 2005.

Sharp, Paul F. "Blackfeet of the Border: One People Divided," *Montana The Magazine of Western History*, 20:1 (Winter 1970).

Spritzer, Don. *Roadside History of Montana*. (Missoula: Mountain Press Publishing Co., 1999).

Searle, Lloyd. "The Bombsight War: Norden vs. Sperry." Viewed at www.thevaluesell/IEEEI.com.

West, Helen B. "Starvation Winter of the Blackfeet." *Montana The Magazine of Western History*, 9:1 (Winter, 1959).

Previous documentation on file (NPS):

☐ preliminary determination of individual listing (36 CFR 67 has been requested)
☐ previously listed in the National Register
☐ previously determined eligible by the National Register
☐ designated a National Historic Landmark
☐ recorded by Historic American Buildings Survey # _____
☐ recorded by Historic American Engineering Record # _____

Primary location of additional data:

☐ State Historic Preservation Office
☒ Other State agency
☐ Federal agency
☐ Local government
☐ University
☐ Other
Name of repository: Montana Department of Transportation

Historic Resources Survey Number (if assigned): _____

10. Geographical Data

Acreage of Property 0.5
(do not include previously listed resource acreage)

UTM References

(Place additional UTM references on a continuation sheet)

1 13 380457 5342220
Zone Easting Northing

3
Zone Easting Northing

2
Zone Easting Northing

4
Zone Easting Northing

Verbal Boundary Description (describe the boundaries of the property)

The Norden Bombsight Storage Vault is located in the SE¼ SE¼ SE¼ of Section 35, T29N, R39E in the northeast section of the Glasgow Airport property. The site includes only the 16.5' x 13' storage vault.

Boundary Justification (explain why the boundaries were selected)

The boundaries were selected to encompass the storage facility and extends 50 feet to the north, south, east, and west to include the structure and the approximate original location of the non-extant perimeter fence, sentry box, and entry gate.

11. Form Prepared By

name/title Jon Axline/Historian

organization _____

date July 1, 2011

street & number 448 Parriman Street

telephone (406) 442-3959

city or town Helena

state MT

zip code 59602

e-mail jaxline@mt.gov

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.

- **Continuation Sheets**
 - **Additional items:** (Check with the SHPO or FPO for any additional items)
-

Photographs:

Submit clear and descriptive black and white photographs. The size of each image must be 1600x1200 pixels at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map.

(See Continuation Sheets)

Property Owner:

(Complete this item at the request of the SHPO or FPO.)

name City of Glasgow/Valley County

street & number 319 3rd Street South/501 Court Square

telephone (406) 228-2476/228-6219

city or town Glasgow

state MT

zip code 59230

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, PO Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

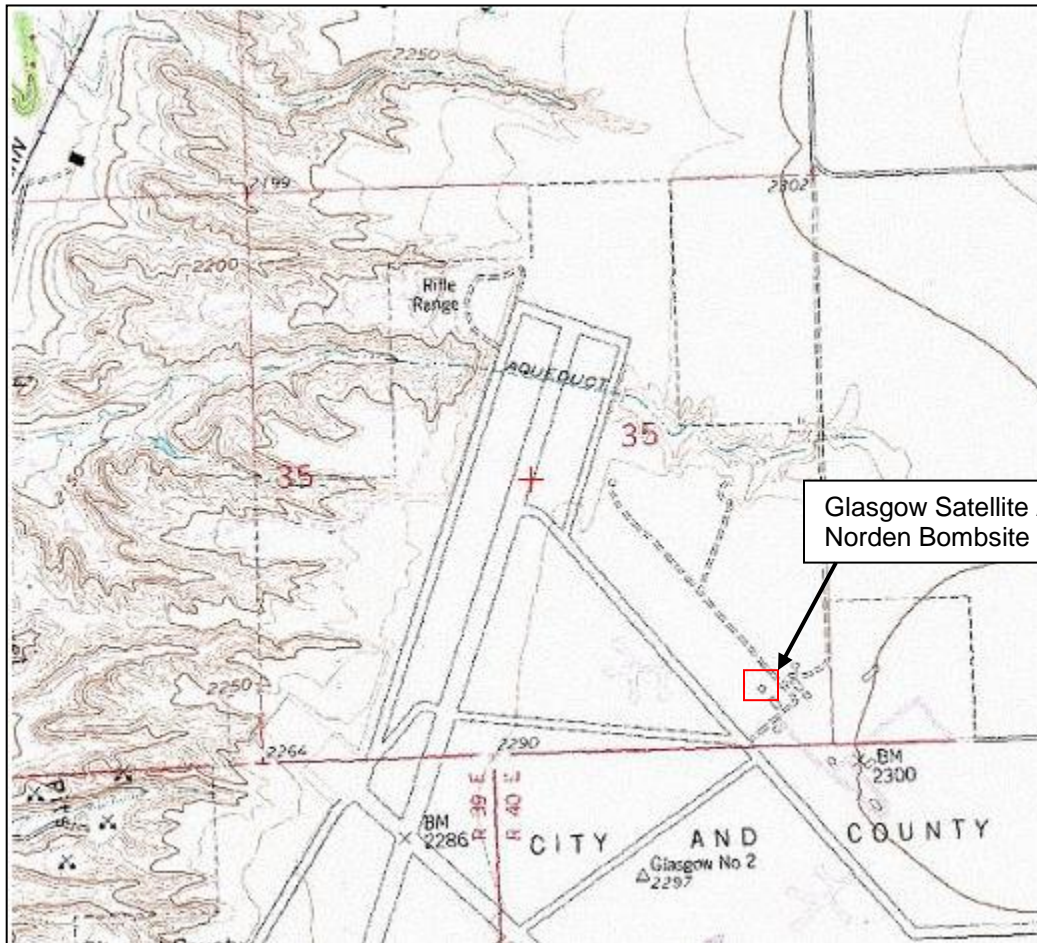
Glasgow Satellite Airfield Norden Bombsite
Storage Vault

Name of Property
Valley, MT

County and State

Name of multiple listing (if applicable)

Section number 10 Page 18



Whately, Montana USGS 7.5' Quadrangle Map, 1978

United States Department of the Interior
National Park Service

**National Register of Historic Places
Continuation Sheet**

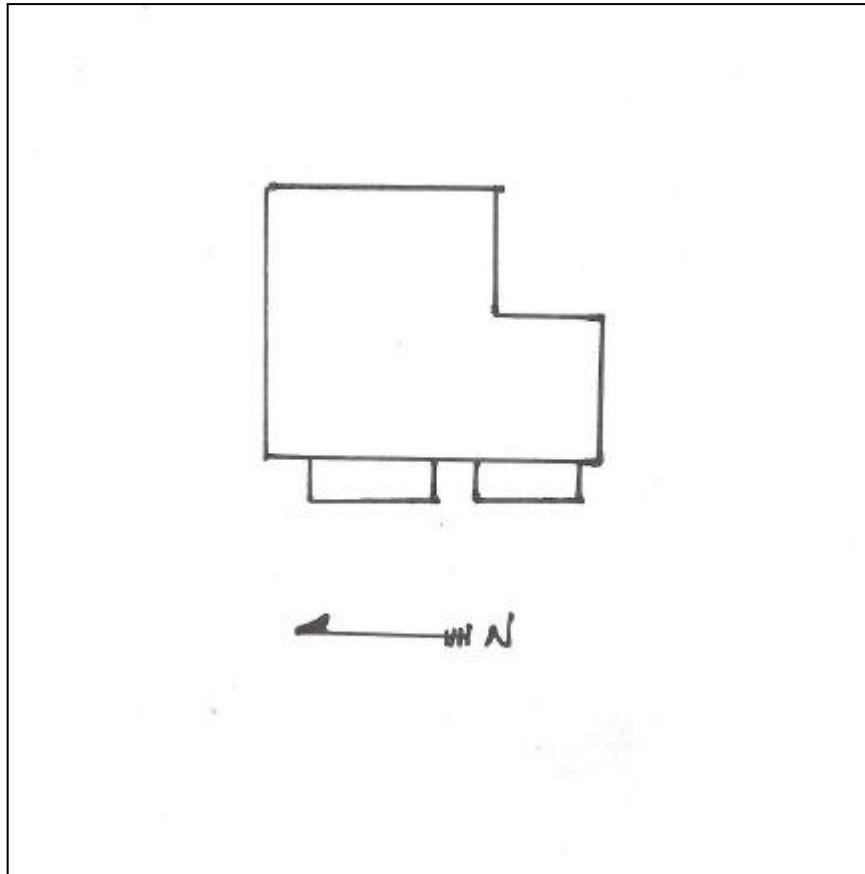
Glasgow Satellite Airfield Norden Bombsite
Storage Vault

Name of Property
Valley, MT

County and State

Name of multiple listing (if applicable)

Section number 10 Page 19



Site Plan of Glasgow Satellite Airfield Norden Bombsite Storage Vault

United States Department of the Interior
National Park Service

**National Register of Historic Places
Continuation Sheet**

Glasgow Satellite Airfield Norden Bombsite
Storage Vault

Name of Property
Valley, MT

County and State

Name of multiple listing (if applicable)

Section number Photographs Page 20

Photolog

Name of Property: Glasgow Satellite Airfield Norden Bombsight Storage Vault

City or Vicinity: Glasgow

County: Valley

State: MT

Photographer: Patrick Rennie and Rick Donaldson

Date Photographed: September 2005 and June 2011

Description of Photograph(s) and number:

0001 of 0008. Norden Bombsight Storage Vault, Northwest and west sides, view to east
MT_ValleyCounty_NordenBombsightStorageVault_0001

0002 of 0008. Norden Bombsight Storage Vault, west side, view to southeast
MT_ValleyCounty_NordenBombsightStorageVault_0002

0003 of 0008. Norden Bombsight Storage Vault, southwest and southeast sides, view to south
MT_ValleyCounty_NordenBombsightStorageVault_0003

0004 of 0008. Norden Bombsight Storage Vault, east and south sides, view to west
MT_ValleyCounty_NordenBombsightStorageVault_0004

0005 of 0008. Norden Bombsight Storage Vault, north and east sides, view to southwest
MT_ValleyCounty_NordenBombsightStorageVault_0005

0006 of 0008. Norden Bombsight Storage Vault, northwest side, view to southeast
MT_ValleyCounty_NordenBombsightStorageVault_0006

0007 of 0008. Detail of south doorway, Norden Bombsight Storage Vault, view to southwest
MT_ValleyCounty_NordenBombsightStorageVault_0007

0008 of 0008. Interior of north unit of Norden Bombsight Storage Vault.
MT_ValleyCounty_NordenBombsightStorageVault_0008

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Glasgow Satellite Airfield Norden Bombsite
Storage Vault

Name of Property
Valley, MT

County and State

Name of multiple listing (if applicable)

Section number Photographs Page 21



MT_ValleyCounty_NordenBombsightStorageVault_0001



MT_ValleyCounty_NordenBombsightStorageVault_0002

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Glasgow Satellite Airfield Norden Bombsite
Storage Vault

Name of Property

Valley, MT

County and State

Name of multiple listing (if applicable)

Section number Photographs Page 22



MT_ValleyCounty_NordenBombsightStorageVault_0003



MT_ValleyCounty_NordenBombsightStorageVault_0004

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Glasgow Satellite Airfield Norden Bombsite
Storage Vault

Name of Property
Valley, MT

County and State

Name of multiple listing (if applicable)

Section number Photographs Page 23



MT_ValleyCounty_NordenBombsightStorageVault_0005



MT_ValleyCounty_NordenBombsightStorageVault_0006

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Glasgow Satellite Airfield Norden Bombsite
Storage Vault

Name of Property
Valley, MT

County and State

Name of multiple listing (if applicable)

Section number Photographs Page 24



MT_ValleyCounty_NordenBombsightStorageVault_0007



MT_ValleyCounty_NordenBombsightStorageVault_0008